

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** An interface for interfacing between front-end data processing systems and back-end data processing systems, the interface comprising an engine, a node layer comprising at least one node, and a utility layer comprising at least one utility, and in which:

the engine is configured to receive a message containing a request from a front-end system for a transaction to be performed by a back-end system, said message not containing an operation identifier of the transaction to be performed, and interpreting said message to select a relevant node from a plurality of nodes for interfacing, wherein the engine does not contain any business logic,

each node represents business logic interfaces to a back-end system,

each node exposes business logic capabilities to the engine;

the engine comprises means for using the exposed node business logic capabilities to automatically build a process map linking received request messages with nodes, wherein the engine uses the process map to select the relevant node from the plurality of nodes, the process map comprising script messages, each message specifying an associated node, a list of the parameters the node uses to perform operations based on the received request messages, and values which it returns for a type of incoming message;

each utility is coupled as a proxy to a back-end system, and is configured for receiving a transaction request from a node, for converting said request to a back-end system request, for receiving a response from the back-end system, and for routing a response to the requesting node,

each node routes a received response to the engine; and

the engine routes a response to the requesting front-end system,

wherein each of the engine and each node comprise an object instantiated from an object-oriented class, and

wherein each of the engine and each node is configured for using a hashtable which maps keys to values for passing data and control to each other, and the engine is configured

for passing a hashtable as a parameter in an execute method, a commit method, and a rollback method of a node object.

2. **(Previously Presented)** An interface as claimed in claim 1, wherein the engine dynamically maintains the process map according to the exposed node business logic capabilities.

3. **(Original)** An interface as claimed in claim 2, wherein the process map comprises a script file.

4. **(Currently Amended)** An interface as claimed in claim 3, wherein each message of the process map has a map associating incoming parameter names with standardised standardized names.

5. **(Canceled)**

6. **(Previously Presented)** An interface as claimed in claim 1, wherein the utilities interface with the node layer according to a uniform interface model.

7. **(Previously Presented)** An interface as claimed in claim 1, wherein the engine calls a plurality of nodes for a transaction request.

8. **(Previously Presented)** An interface as claimed in claim 7, wherein the engine is configured for calling nodes in sequence, and for passing the output from a previous node to a next node.

9. **(Previously Presented)** An interface as claimed in claim 1, wherein the engine and each node uses a hashtable mapping keys to values for passing data and control to each other.

10. **(Previously Presented)** An interface as claimed in claim 9, wherein the engine and the nodes each use a hashtable for returning a result from a back-end system.

11. (Previously Presented) An interface as claimed in claim 10, wherein the engine requests a return value for a transaction, and each node is configured for defaulting to not passing a return value if one is not so requested.

12. (Canceled).

13. (Canceled).

14. (Currently Amended) An interface as claimed in claim [[12]] 1, wherein the engine is configured for activating a sequence of nodes for a transaction, and each node is configured for performing a rollback if a transaction fails.

15. (Currently Amended) An interface as claimed in claim [[12]] 1, wherein the engine comprises an externally visible engine class, an object of which comprises means for instantiating:

- a processor object for instantiating said node objects; and
- a loader object for loading the process map, and for determining node objects associated with a received message.

16. (Previously Presented) An interface as claimed in claim 15, wherein the engine is configured for instantiating a parser object for parsing a received message, for placing extracted data in a hashtable, and for returning the hashtable to the engine object.

17. (Previously Presented) An interface as claimed in claim 15, wherein the engine comprises a builder object configured for automatically updating the process map according to capabilities exposed by node classes.

18. (Currently Amended) An interface as claimed in claim [[12]] 1, wherein each node class comprises a method for returning a string to the engine indicating the node capabilities.

19. (Previously Presented) An interface for interfacing between front-end data processing systems and back-end data processing systems, the interface comprising an engine, a node layer comprising at least one node, and a utility layer comprising at least one utility, and in which:

the engine comprises means for receiving a message containing a request from a front-end system for a transaction to be performed by a back-end system, the message not including an operation identifier of the transaction to be performed, and means for interpreting said message to select a relevant node from a plurality of nodes for interfacing;

each node represents business logic interfaces to a back-end system,

each node exposes business logic capabilities to the engine;

the engine comprises means for using the exposed node business logic capabilities to automatically build a process map linking received request messages with nodes, wherein the engine uses the process map to select the relevant node from the plurality of nodes;

each utility is coupled as a proxy to a back-end system, comprises means for receiving a transaction request from a node, for converting said request to a back-end system request, for receiving a response from the back-end system, and for routing a response to the requesting node,

each node comprises means for routing a received response to the engine,

the engine comprises means for routing a response to the requesting front-end system,

each of the engine and each node comprises an object instantiated from an object-oriented class, and

each of the engine and each node comprises means for using a hashtable which maps keys to values for passing data and control to each other, and the engine comprises means for passing a hashtable as a parameter in an execute method, a commit method, and a rollback method of a node object.

20. (Currently Amended) A method of interfacing between front-end data processing systems and back-end data processing systems, the method being performed by an interface comprising an engine for communicating with the front-end systems and a utility layer for communicating with the back-end systems, the method comprising the steps of:

the engine receiving from a front-end system a message incorporating a request for a transaction to be performed by a back end system but not indicating a particular back-end

system suitable for the transaction, wherein the message does not include an operation identifier identifying the transaction to be performed,

the engine using a process map to select one of a plurality of nodes in a node layer which may provide a suitable link to the back-end systems for the request, the process map being automatically built to link message types to nodes according to exposed business logic capabilities of the nodes and comprising script messages, each message specifying an associated node, a list of the parameters the node uses to perform operations based on the received message, and values which it returns for a type of incoming message, wherein the engine does not contain any business logic,

the engine passing a request to the selected node,

the selected node communicating with a utility with which it is associated to instruct the utility to perform the transaction, receiving a response from the utility, and passing the response back to the node, and

the node passing the response back to the engine, and the engine passing the response back to the requesting front-end system,

wherein:

the engine dynamically creates a node object according to parameters retrieved from the process map,

the engine passes data from the received message to the created node object,

data is passed between the node object and the engine by passing a hashtable linking keys with associated data, and

the engine passes a hashtable as a parameter in an execute method, a commit method, and a rollback method, and the node rolls back according to the rollback method if the transaction fails.

21. (Canceled).

22. (Canceled).

23. (Original) A method as claimed in claim 20, wherein the process map is an XML script file.

24. (Currently Amended) A computer program product comprising software code, that when executed on a computing system, performs a method of interfacing between front-end data processing systems and back-end data processing systems, the method being performed by an interface comprising an engine for communicating with the front-end systems and a utility layer for communicating with the back-end systems, the method comprising the steps comprising:

the engine receiving from a front-end system a message incorporating a request for a transaction to be performed by a back end system but not indicating a particular back-end system suitable for the transaction, the message not including an operation identifier of the transaction to be performed,

the engine using a process map to select one of a plurality of nodes in a node layer which may provide a suitable link to the back-end systems for the request, the process map automatically linking message types to nodes according to exposed business logic capabilities of the nodes and comprising script messages, each message specifying an associated node, a list of the parameters the node uses to perform operations based on the received message, and values which it returns for a type of incoming message, wherein the engine does not contain any business logic,

the engine passing a request to the selected node,

the selected node communicating with a utility with which it is associated to instruct the utility to perform the transaction, receiving a response from the utility, and passing the response back to the node, and

the node passing the response back to the engine, and the engine passing the response back to the requesting front-end system,

wherein each of the engine and each node comprise an object instantiated from an object-oriented class, and

wherein each of the engine and each node is configured for using a hashtable which maps keys to values for passing data and control to each other, and the engine is configured for passing a hashtable as a parameter in an execute method, a commit method, and a rollback method of a node object.

25. (New) An interface for interfacing between front-end data processing systems and back-end data processing systems, the interface comprising an engine, a node layer comprising at least one node, and a utility layer comprising at least one utility, and in which:

the engine comprises a receiving component configured to receive a message containing a request from a front-end system for a transaction to be performed by a back-end system, the message not including an operation identifier of the transaction to be performed, and an interpreting component configured to interpret said message to select a relevant node from a plurality of nodes for interfacing;

each node represents business logic interfaces to a back-end system,

each node exposes business logic capabilities to the engine;

the engine comprises an automatic building component configured to use the exposed node business logic capabilities to automatically build a process map linking received request messages with nodes, wherein the engine uses the process map to select the relevant node from the plurality of nodes;

each utility is coupled as a proxy to a back-end system, comprises a receiving, converting and routing component configured to receive a transaction request from a node, to convert said request to a back-end system request, to receive a response from the back-end system, and to route a response to the requesting node,

each node comprises a first routing component configured to route a received response to the engine,

the engine comprises a second routing component configured to route a response to the requesting front-end system,

each of the engine and each node comprises an object instantiated from an object-oriented class, and

each of the engine and each node comprises a hashtable component configured to use a hashtable which maps keys to values for passing data and control to each other, and the engine comprises a passing component configured to pass a hashtable as a parameter in an execute method, a commit method, and a rollback method of a node object.